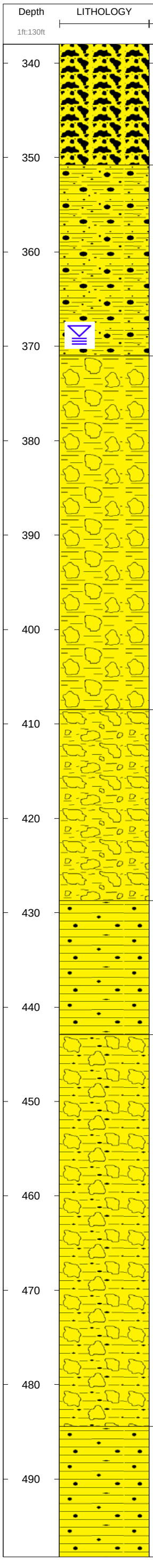
Nye County Early Warning Drilling Program

Summary Lithologic Log

BOREHOLE ID: NC-EWDP-19PB



DESCRIPTION

(0 to 350.8 feet (ft)) UNDIFFERENTIATED ALLUVIUM
This interval consists of unsaturated zone alluvium, unlogged and not sampled.
Sonic coring begins at 350.8 feet, and continues to the end of the borehole.

(350.8 to 371.0 ft) WELL-GRADED SAND WITH CLAY (SW-SC) AND POORLY GRADED SAND WITH CLAY (SP-SC):
In this interval, layers of SW-SC up to 3.3 ft thick and SP-SC up to 3.6 ft thick predominate. Lesser amounts of silty sand with gravel (SM), clayey sand with gravel (SC), well-graded gravel with clay and sand (GW-GC), and poorly graded gravel with clay and sand (GP-GC) occur in roughly equal proportions. Fines in SM and SC layers range from no to moderate plasticity. Gravel clasts are volcanic in origin and subangular to subrounded. Colors range from predominantly yellowish red (5YR 5/6) to reddish brown (5YR 4/4). No cementation or reaction with 10 percent (%) hydrochloric acid (HCl) is observed. All samples are moist.

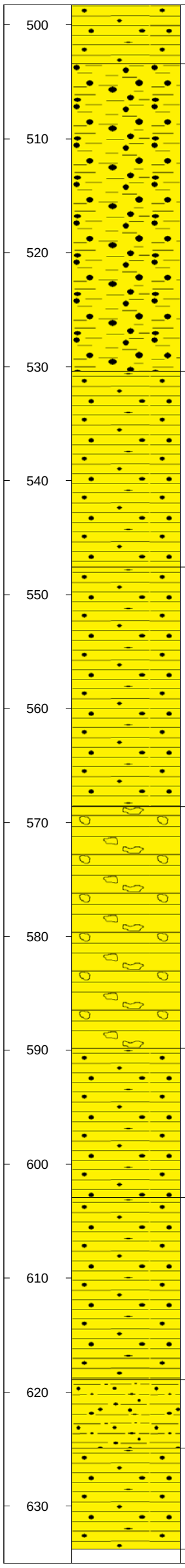
(371.0 to 408.5 ft) POORLY GRADED GRAVEL WITH CLAY (GP-GC) AND WELL-GRADED GRAVEL WITH SILT (GW-GM):
In this interval, layers of poorly graded gravel with clay (GP-GC) up to 2.4 ft thick and well-graded gravel with silt (GW-GM) up to 5.0 ft thick predominate. Lesser amounts of well-graded gravel (GW), poorly graded gravel (GP), well-graded gravel with clay (GW-GC), clayey gravel (GC), clayey sand (SC), poorly graded sand with clay (SP-SC), and well-graded sand with clay (SW-SC) occur in roughly equal proportions. Fines range from low to moderate plasticity. Gravel clasts are volcanic in origin and subrounded. Colors range from predominantly reddish gray (5YR 5/2) to light reddish brown (5YR 6/4) and dark yellowish orange (10YR 6/6). No cementation is observed. Typically no reaction with 10% HCl is observed, but weak reaction is observed from 371 to 375 ft. All samples are wet.

(408.5 to 428.7 ft) WELL-GRADED GRAVEL WITH CLAY (GW-GC) AND POORLY GRADED SAND WITH CLAY (SP-SC):
In this interval, layers of well-graded gravel with clay (GW-GC) up to 4.1 ft thick and poorly graded sand with clay (SP-SC) up to 1.4 ft thick predominate. Lesser well-graded gravel (GW), poorly graded gravel (GP), poorly graded gravel with clay (GP-GC), and well-graded sand with clay (SW-SC) occur in roughly equal proportions. Fines range from low to moderate plasticity. Gravel clasts are volcanic in origin and subrounded. Colors range from predominantly light reddish brown (5YR 6/4) to yellowish red (5YR 5/6), reddish yellow (5YR 6/6), and reddish brown (5YR 4/4). No cementation is observed from 408.5 to 416.1 ft. Weak cementation is observed from 416.1 to 428.7 ft. No reaction to 10% HCl is observed. All samples are wet.

(428.7 to 442.9 feet) CLAYEY SAND (SC) AND WELL-GRADED SAND WITH CLAY (SW-SC):
In this interval, layers of clayey sand (SC) up to 1.7 ft thick and well-graded sand with clay (SW-SC) up to 4.0 ft thick predominate. Lesser well-graded gravel with clay (GW-GC) also occurs within this interval. Fines range from low to moderate plasticity. Gravel clasts are volcanic in origin and subrounded. Colors range from predominantly reddish yellow (5YR 6/6) to yellowish red (5YR 5/6). Weak cementation is observed throughout the interval; however, no reaction to 10% HCl is observed. All samples are wet.

(442.9 to 484.4 ft) POORLY GRADED GRAVEL WITH SILT (GP-GM) AND WELL-GRADED GRAVEL WITH CLAY (GW-GC):
In this interval, layers of poorly graded gravel with silt (GP-GM) up to 3.5 ft thick and well-graded gravel with clay (GW-GC) up to 2.2 ft thick predominate. Lesser well-graded gravel with silt (GW-GM), clayey gravel (GC), well-graded gravel (GW), poorly graded gravel (GP), poorly graded gravel with clay (GP-GC), poorly graded sand with clay (SP-SC), poorly graded sand with silt (SP-SM), and well-graded sand with clay (SW-SC) occur in roughly equal proportions. Fines have low plasticity. Clasts are volcanic in origin and subrounded. Colors range from predominantly yellowish red (5YR 5/6) to reddish yellow (5YR 6/6), reddish brown (5YR 5/4), and brown (7.5YR 5/4). Weak cementation is observed from 442.9 to 449.7 ft. No cementation is observed from 449.7 to 484.4 ft. No reaction to 10% HCl is observed. All samples are wet.

(484.4 to 503.4 ft) CLAYEY SAND (SC) AND POORLY GRADED GRAVEL WITH CLAY (GP-GC):
In this interval, layers of clayey sand (SC) up to 1.9 ft thick and poorly graded gravel with clay (GP-GC) up to 2.3 ft thick predominate. Lesser well-graded gravel with clay (GW-GC), clayey gravel (GC), well-graded gravel (GW) and silty sand (SM) occur in roughly proportional amounts. Fines have low plasticity. Gravel clasts are volcanic in origin and subrounded. Colors range from predominantly reddish yellow (5YR 6/6) to reddish brown (5YR 5/4), strong brown (7.5YR 5/6), and reddish yellow (7.5 YR 5/6). Weak cementation is observed throughout the interval. No reaction to 10% HCl is observed. All samples are wet.



(503.4 to 530.4 ft) POORLY GRADED SAND WITH CLAY (SP-SC) AND POORLY GRADED SAND WITH SILT (SP-SM):
In this interval, layers of poorly graded sand with clay (SP-SC) up to 2.6 ft thick and poorly graded sand with silt (SP-SM) up to 2.1 ft thick predominate. Lesser poorly graded gravel with silt (GP-GM), poorly graded gravel with clay (GP-GC), poorly graded gravel (GP), well-graded gravel with clay (GW-GC), well-graded sand with clay (SW-SC) and clayey sand (SC) occur in roughly proportional amounts. Fines have low plasticity. Gravel clasts are volcanic in origin and subrounded to subangular, with the percentage of subangular clasts increasing toward the base of the interval. Colors range from predominantly strong brown (7.5YR 5/6) to reddish yellow (7.5YR 6/6). Weak cementation is observed throughout the interval. No reaction with 10% HCl is observed. All samples are wet.

(530.4 to 547.6 ft) CLAYEY SAND (SC) AND POORLY GRADED GRAVEL WITH CLAY (GP-GC):
In this interval, layers of clayey sand (SC) up to 3.0 ft thick and poorly graded gravel with clay (GP-GC) up to 2.5 ft thick predominate. Lesser clayey gravel (GC) also occurs. Fines have low plasticity. Gravel clasts are volcanic in origin and subangular. Colors range from predominantly reddish brown (5YR 5/4) to light brown (7.5YR 6/4), yellowish red (5YR 4/6), brown (7.5YR 5/4), and strong brown (7.5YR 5/6). Weak cementation is observed throughout the interval. No reaction to 10% HCl is observed. All samples are wet.

(547.6 to 568.6 ft) CLAYEY SAND (SC):
In this interval, layers of clayey sand (SC) up to 3.0 ft thick predominate. Lesser clayey gravel (GC) is also present. Fines range from low to moderate plasticity. Gravel clasts are volcanic in origin and subangular. Colors range from predominantly reddish brown (5YR 5/4) to brown (7.5YR 5/4). Weak cementation is observed throughout the interval. No reaction to 10% HCl is observed. All samples are wet.

(568.6 to 589.8 ft) CLAYEY GRAVEL (GC) AND CLAYEY SAND (SC):
In this interval, layers of clayey gravel (GC) up to 3.3 ft thick and clayey sand (SC) up to 2.2 ft thick predominate. Lesser poorly graded sand with clay (SP-SC), poorly graded sand with silt (SP-SM), poorly graded gravel with clay (GP-GC), and well-graded gravel with clay (GW-GC) occur in roughly equal proportions. Fines range from low to modrate plasticity. Gravel clasts are volcanic in origin and subangular. Colors range from predominantly yellowish red (5YR 5/6 5YR 4/6) to light brown (7.5YR 6/4), brown (7.5YR 4/3, 10YR 5/3), yellowish brown (10YR 5/4, 10YR 5/6, 10YR 5/8), and reddish yellow (7.5YR 6/6). Weak cementation is observed from 568.6 to 570.1 ft. No cementation is observed from 570.1 to 589.8 ft. No reaction to 10% HCl is observed. All samples are wet.

(589.8 to 602.9 ft) CLAYEY SAND WITH GRAVEL (SC):
The interval consists of layers of clayey sand with gravel (SC) up to 2.3 ft thick. Fines have low plasticity. Gravel clasts are volcanic in origin and subangular. Colors range from predominantly yellowish red (5YR 5/6) to light brown (7.5YR 6/4), and reddish yellow (7.5YR 6/6). No cementation is observed in this interval. Weak reaction to 10% HCl is observed within the interval from 593.6 to 594.6 ft. All samples are wet.

(602.9 to 618.9 ft) CLAYEY SAND (SC) AND WELL-GRADED SAND WITH SILT (SW-SM):
In this interval, layers of clayey sand (SC) up to 2.7 ft thick and well-graded sand with silt (SW-SM) up to 1.6 ft thick predominate. Lesser clayey gravel (GC), silty sand (SM), poorly graded sand with clay (SP-SC), poorly graded gravel with clay (GP-GC), and well-graded gravel with clay (GW-GC) occur in roughly equal proportions. Fines range from no to low plasticity. Gravel clasts are volcanic in origin and subangular. Colors range from predominantly light brown (7.5 YR 6/4) to yellowish red (5YR 4/6), brown (7.5YR 4/3), and strong brown (7.5YR 4/6). No cementation or reaction to 10% HCl is observed. All samples are wet.

(618.9 to 624.9 ft) SILTY SAND WITH GRAVEL (SM):
The interval is composed of layers of silty sand with gravel (SM) up to 1.5 ft thick. Fines range from low to moderate plasticity. Gravel clasts are volcanic in origin and subangular. Color is strong brown (7.5YR 4/6). No cementation or reaction with 10% HCl is observed. All samples are wet.

(624.9 to 633.8 ft Total Depth) CLAYEY SAND WITH GRAVEL (SC):
In this interval, layers of clayey sand with gravel (SC) up to 2.7 ft thick predominate. Lesser clayey gravel (GC) is also present. Fines have low plasticity. Gravel clasts are volcanic in origin and subangular. Colors range from predominantly light reddish brown (5YR 6/4) to reddish brown (5YR 5/4, 5YR 4/3), and yellowish red (5YR 5/6). No cementation or reaction to 10% HCl is observed. All samples are wet.